FINAL REPORT TO THE NYS IPM PROGRAM,
AGRICULTURAL IPM 2002-2003

1.Title: Biological control of Western Flower Thrips in Capital District Greenhouses

2. Project Leader(s): John Sanderson, Cornell University, Christopher Logue, Cornell Cooperative Extension, Schenectady County.

3. Becker's Farm, East Greenbush, NY

4. Type of Grant: Biological Control and Pest Biology

5. Project Location: Rensselaer County

6.Abstract: Historically, Western Flower Thrips have been one of the most difficult to control and damaging pests encountered in spring greenhouse crops in the Capital District of New York and throughout the rest of the region. Data collected through evaluations at educational programs held in the Capital District indicated that growers spray for thrips anywhere from one to twelve times for thrips during the spring growing season. If biological controls can adequately control thrips growers can realize a significant savings in labor by reducing the number of pesticide applications.

7. Background and Justification: Releases of *N.cucumeris* have been trialed in greenhouses in several areas of the state since 1996. Several operations have adopted this technique with some success. Evaluations from the Capital District Bedding Plant Conference indicated that growers are willing to try IPM methods for controlling thrips but need assistance at fitting biologicals into current production practices.

8. Objectives: Increase grower awareness of thrips habits and life cycles; increase awareness of how to scout and monitor WFT populations; decrease grower dependence on chemical controls for WFT and continue to learn more about how to successfully release *N.cucumeris.*

9. **Procedures:** The procedures used differed from the original proposal. One grower cooperator agreed to participate in this project and committed three 30 x96 foot greenhouses. Three treatments were used: Greenhouse #8 had *N.cucumeris* broadcast releases on a weekly basis. Greenhouse #9 had weekly broadcast releases of *N. cucumeris* and was to have an application of the insecticide Conserve halfway through the crop cycle. In consultation with the grower the Conserve was not applied in this house because thrips populations were quite low. Greenhouse #10 was the control house and the grower agreed to apply no pesticides in the house. Due to the cold weather in spring 2002 production in these three houses was delayed and the houses were not 100% full until mid-April. In each of the houses ten half yellow sticky cards were placed just above the crop canopy as well as dispersed through hanging baskets in the three

houses. Thrips counts were recorded and cards were changed on a weekly basis. Sticky cards were the only monitoring tool used since we wanted to simulate grower practices.

10. Results and Discussion: The card counts over the time that data was recorded indicated that there was no difference in the three treatments. Thrips counts were quite low in all three treatments throughout the season. A spike in the number of thrips recorded was noted just after a warm spell in April when the greenhouse vents were open and sides were rolled up. The highest numbers of thrips were observed in the area of the greenhouse where flowers had opened and the crop was somewhat overgrown. Several good impacts came from this project even though the data was not what was expected. First, the grower went through the process of monitoring with the extension educator and there was valuable discussion around whether or not to apply the Conserve in greenhouse #9. Second, we were able to demonstrate to the grower that thrips were more prevalent in the areas of the greenhouse where flowers were open. Third, the three greenhouses involved in the trial received no insecticides with no perceptible decrease in quality versus other houses in the range that were managed by conventional means.